



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/701,238

11/04/2003

Kishore Karighattam

AMDP772US

5261

90237 7590 07/01/2010  
Eschweiler & Associates, LLC  
629 Euclid Avenue  
Suite 1000  
Cleveland, OH 44114

EXAMINER

FORD, GRANT M

ART UNIT

PAPER NUMBER

2442

MAIL DATE

DELIVERY MODE

07/01/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/701,238	<b>Applicant(s)</b> KARIGHATTAM ET AL.	
	<b>Examiner</b> GRANT FORD	<b>Art Unit</b> 2442	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 April 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,8-18 and 23-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-18, 23-25 is/are allowed.
- 6) ☒ Claim(s) 1 and 8-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Status of the Claims***

1. This communication is responsive to the remarks received 4/5/2010.

Claims 1, 8-18 and 23-25 remain pending further examination.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ronciak (US 2004/0120339) in view of Rajagopalan et al. (US 2004/0249998), hereinafter referred to as Rajagopalan.

a. As per claim 1, Ronciak discloses a method for partial coalescing transmit buffers comprising:

obtaining a data packet from host software, wherein the data packet is located in an array of virtual buffers that each map to one or more physical buffers in a system memory (Fig. 4-5, Para. 0026,0030);

analyzing the virtual buffers and the physical buffers associated with the data packet (Para. 0038,0042-0043,0045-0047); and

selectively copying either selected ones of the virtual buffers or selected ones of the physical buffers into a coalesced physical buffer based on the analysis (Fig. 5, Para. 0034-0035,0045-0047). However, Ronciak fails to explicitly disclose assembling a coalesced array from the coalesced physical buffer and one or more respective non-selected and non-coalesced virtual or physical buffers.

Rajagopalan teaches assembling a coalesced array from a coalesced physical buffer and one or more respective non-selected and non-coalesced virtual or physical buffers (Para. 0131-0132, 0134-0136 – see DMA engine receiving transmit buffer descriptor including physical address of the location of the transmit buffer at Para. 0134-0136, see also protocol headers stored at TCP Stack Memory Space 225 at Para. 0131-0132, note that output frames (coalesced arrays) are constructed by combining applicable transmit buffer data (physical buffer data) and protocol header data stored at the TCP Stack Memory Space 225 (non-selected and non-coalesced virtual or physical buffer). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the use of a coalesced array assembled from a coalesced physical buffer and one or more non-selected and non-coalesced virtual or physical buffers with the prior art of Ronciak. One of ordinary skill in the art would have done so for the purpose of constructing frames for transmission by appending a prototype header to buffered payload data according to a specified segment size (Para. 0134-0136).

b. As per claim 8, Ronciak additionally discloses wherein selectively copying selected ones of the one or more virtual or physical buffers comprises iteratively

Art Unit: 2442

analyzing, in order, each virtual or physical buffer associated with the data packet such that the composite size of the selected ones is less than a predetermined size (Para. 0029-0031,0045-0046).

c. As per claim 9, Ronciak additionally discloses wherein selectively copying selected ones of the one or more virtual or physical buffers comprises performing the following beginning with a first buffer:

obtaining a size for a current or physical buffer (Para. 0030,0039-0041,0045-0046);

computing a composite size as a function of the current virtual or physical buffer size and a composite virtual or physical buffer length (Para. 0039-0041,0045-0046); and

on the composite virtual or physical buffer size being less than a predetermined size, selecting the current or physical buffer and adding the current virtual or physical size to the composite virtual or physical buffer length (Para. 0045-0047).

d. As per claim 10, Ronciak additionally discloses determining a predetermined size according to a desired overall system performance, and using the predetermined size in identifying the selected ones of the virtual or physical buffers (Para. 0010-0011,0029-0031, 0045-0047).

e. As per claim 11, Ronciak additionally discloses determining a predetermined size according to a desired network throughput, and using the

Art Unit: 2442

predetermined size in identifying the selected ones of the virtual or physical buffers (Para. 0010-0011, 0029-0031,0045-0047).

f. As per claim 12, Ronciak additionally discloses determining the predetermined size according to a desired overall system performance, network throughput, and system resource utilization, and using the predetermined size in identifying the selected ones of the virtual or physical buffers (Para. 0010-0011, 0029-0031,0045-0047).

#### ***Allowable Subject Matter***

4. Claims 13-18 and 23-25 remain allowed.

#### ***Response to Arguments***

5. Applicant's arguments filed 4/5/2010, with respect to the prior art of Jacobs have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Rajagopalan, as outlined above.

#### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to GRANT FORD whose telephone number is (571)272-8630. The examiner can normally be reached on 8-5:30 Mon-Thurs alternating Fridays.

Art Unit: 2442

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Philip Lee can be reached on (571)272-3967. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/G. F./  
Examiner, Art Unit 2442

/Philip C Lee/  
Acting SPE of Art Unit 2442